

AMENDMENTS TO THE CLAIMS

Claims 1-10 (Canceled)

Claim 11 (Original): A method comprising selectively etching a trench dielectric layer and a contact dielectric layer in a structure comprising the trench dielectric layer, the contact dielectric layer, and an etch stop layer therebetween comprising undoped silicon oxide and having a hole therein, the hole containing a trench dielectric layer material, with an etch gas including $C_2H_2F_4$.

Claim 12 (Currently Amended): A method of forming an interconnect structure, the method comprising

depositing an etch stop layer, containing an undoped silicon oxide, on a contact dielectric layer containing a first oxide comprising silicon;

forming a hole through the etch stop layer;

depositing a trench dielectric layer, containing a second oxide comprising silicon, on the etch stop layer and in the hole through the etch stop layer;

forming a trench in the trench dielectric layer and a hole through the contact dielectric layer by etching the first and second oxides; and

depositing an electrically conductive interconnect in the trench, the hole through the etch stop layer and the hole through the contact dielectric layer, wherein

forming the trench comprises etching the second oxide with a chemistry containing $C_2H_2F_4$.

Claim 13 (Canceled)

Claim 14 (Currently Amended): The method according to ~~Claim 13~~ Claim 12, wherein forming the hole through the etch stop layer comprises etching with a chemistry containing at least one of C_xF_y (where $x = 1-6$, and $y = (2x-2)$, $2x$ or $(2x+2)$, but is at least 4) and $C_aH_bF_c$ (where $a = 1$ or 2 , $b = 0-2$, and $c = (2a+2-b)$).

Claim 15 (Currently Amended): A method of forming an interconnect structure, the method comprising

forming a trench in a trench dielectric layer;

forming a first hole through an etch stop layer below the trench dielectric layer, the etch stop layer containing an undoped silicon oxide;

forming a second hole through a contact dielectric layer below the first hole in the etch stop layer, the second hole being aligned with the first hole; and

depositing an electrically conductive interconnect in the first hole, the second hole, and the trench, wherein

forming the trench comprises

etching the second oxide with a chemistry containing $C_2H_2F_4$ and stopping at the etch stop layer; or

etching the second oxide for a predetermined etch time with a chemistry containing at least one of C_xF_y (where $x = 1-6$, and $y = (2x-2)$, $2x$ or $(2x+2)$, but is at least 4) and $C_aH_bF_c$, (where $a = 1$ or 2 , $b = 0-2$, and $c = (2a+2-b)$).

Claim 16 (Canceled)

Claim 17 (Currently Amended): The method according to ~~Claim 16~~ Claim 15,
wherein forming the trench comprises etching with a chemistry containing $C_2H_2F_4$.